

AMENDMENT OF CLAIMS

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1. (Currently Amended) A node system for increasing the capacity of a wavelength division multiplexing (WDM) system, comprising: means for interleaving a plurality of optical signals received therein into a predetermined number of channels; at least one demultiplexer coupled to one of the outputs of said channels for demultiplexing said optical signals received via said one of the outputs into a prescribed number of channels; at least one multiplexer for multiplexing the respective demultiplexed optical signals outputted from ~~said~~the prescribed channels of said demultiplexer; ~~and,~~ means for deinterleaving ~~said~~the optical signal outputted from said multiplexer to be forwarded to a next node; and, coupled to the interleaving means, an output terminal without forward connection, to which output of at least an additional channel for an additional, interleaved optical signal is to be coupled, for future connection of the terminal to an additional demultiplexer in the event the system is expanded so as to provide said forward connection.

2. (Currently Amended) A node system for increasing the capacity of a wavelength division multiplexing (WDM) system, comprising: means for interleaving a plurality of optical signals received therein into a predetermined number of channels; a plurality of demultiplexers coupled to the respective output of said predetermined channels for

demultiplexing the output optical signal from said respective channel into a prescribed number of channels; a plurality of multiplexers for multiplexing the respective demultiplexed optical signals from said plurality of demultiplexers; ~~and~~, means for deinterleaving said optical signals outputted from the respective output of said plurality of multiplexers to be forwarded to a next node; and, coupled to the interleaving means, an output terminal without forward connection, to which output of at least an additional channel for an additional, interleaved optical signal is to be coupled, for future connection of the terminal to an additional demultiplexer in the event the system is expanded so as to provide said forward connection.

3. (Currently Amended) A method for increasing the capacity of a wavelength division multiplexing (VDM) system of the type having a pair of interleaver and deinterleaver and at least one pair of multiplexer and demultiplexer disposed between said interleaver and said deinterleaver, the method comprising the steps of: upon receiving a plurality of optical signals from different sources by said interleaver, interleaving said received optical signals into a predetermined number of channels; demultiplexing, by said demultiplexer, said interleaved optical signals received from the respective said predetermined channel into a prescribed number of channels; multiplexing, by said multiplexer, said demultiplexed optical signals received from the respective said

prescribed channel of said demultiplexer; ~~and~~, deinterleaving said multiplexed optical signals into one transmission channel to be forwarded to a next node; and, providing the interleaver with an output terminal without forward connection, to which output of at least an additional channel for an additional, interleaved optical signal is to be coupled, for future connection of the terminal to an additional demultiplexer in the event the system is expanded so as to provide said forward connection.

4. (New) The node system of claim 1, further comprising, coupled to the deinterleaving means, an input terminal without backward connection, to which, in said event, said output of at least an additional channel, after demultiplexing by said additional demultiplexer and multiplexing by an additional multiplexer, is to be routed.

5. (New) The node system of claim 4, further comprising, coupled to the deinterleaving means, at least one other input terminal without backward connection, to which, in the event the system is expanded to provide the other backward connection, output of at least another additional channel, after demultiplexing by another additional demultiplexer and multiplexing by another additional multiplexer, is to be routed.

6. (New) The node system of claim 5, further comprising, coupled to the interleaving

means, at least one other output terminal without forward connection, to which, in said event the system is expanded to provide the other backward connection, said output of at least another additional channel, after said demultiplexing by another additional demultiplexer and said multiplexing by another additional multiplexer, is to be routed.

7. (New) The node system of claim 1, further comprising, coupled to the interleaving means, another output terminal without forward connection, to which output of at least another additional channel for another additional, interleaved optical signal is to be coupled, for future connection of said another output terminal to another additional demultiplexer in the event the system is expanded so as to provide the forward connection for said another output terminal.

8. (New) The node system of claim 2, further comprising, coupled to the deinterleaving means, an input terminal without backward connection, to which, in said event, said output of at least an additional channel, after demultiplexing by said additional demultiplexer and multiplexing by an additional multiplexer, is to be routed.

9. (New) The node system of claim 8, further comprising, coupled to the deinterleaving means, at least one other input terminal without backward connection, to which, in the

event the system is expanded to provide the other backward connection, output of at least another additional channel, after demultiplexing by another additional demultiplexer and multiplexing by another additional multiplexer, is to be routed.

10. (New) The node system of claim 9, further comprising, coupled to the interleaving means, at least one other output terminal without forward connection, to which, in said event the system is expanded to provide the other backward connection, said output of at least another additional channel, after said demultiplexing by another additional demultiplexer and said multiplexing by another additional multiplexer, is to be routed.

11. (New) The node system of claim 2, further comprising, coupled to the interleaving means, another output terminal without forward connection, to which output of at least another additional channel for another additional, interleaved optical signal is to be coupled, for future connection of said another output terminal to another additional demultiplexer in the event the system is expanded so as to provide the forward connection for said another output terminal.

12. (New) The method of claim 3, further comprising the step of providing the deinterleaver with an input terminal without backward connection, to which, in said

event, said output of at least an additional channel, after demultiplexing by said additional demultiplexer and multiplexing by an additional multiplexer, is to be routed.

13. (New) The method of claim 12, further comprising the step of providing the deinterleaver with at least one other input terminal without backward connection, to which, in the event the system is expanded to provide the other backward connection, output of at least another additional channel, after demultiplexing by another additional demultiplexer and multiplexing by another additional multiplexer, is to be routed.

14. (New) The method of claim 13, further comprising the step of providing the interleaver with at least one other output terminal without forward connection, to which, in said event the system is expanded to provide the other backward connection, said output of at least another additional channel, after said demultiplexing by another additional demultiplexer and said multiplexing by another additional multiplexer, is to be routed.

15. (New) The method of claim 3, further comprising the step of providing the interleaver with another output terminal without forward connection, to which output of at least another additional channel for another additional, interleaved optical signal is to

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be coupled, for future connection of said another output terminal to another additional demultiplexer in the event the system is expanded so as to provide the forward connection for said another output terminal.
